

Remarks

This is in response to the Office Action of August 23, 2005. In that Office Action, Claims 8-9, 11-12 and 15-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,381,914 to Koyama et al. in view of U.S. Patent No. 4,253,580 to Doi et al.

Claims 10 and 13-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama in view of Doi as applied above and further in view of U.S. Patent No. 6,371,318 to Riffer.

In addition, Claims 8-21 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of co-pending application 10/400,304.

By this Amendment, Claim 1 has been amended to recite a closure comprising a plastic shell with a substantially oxygen impermeant liner adhered directly to at least a portion of the inner surface of the shell end panel. The liner is made from a composition that includes a blend of, by weight, approximately 40 to 70 parts thermoplastic elastomer, approximately 15 to 30 parts polyisobutylene and approximately 10 to 35 parts polybutylene.

Applicants respectfully submit that the closure of Claim 1, as amended, is neither shown nor suggested by the art cited by

the Patent Office. The Office acknowledges that Koyama "does not disclose a liner comprising a blend of a thermoplastic elastomer and polyisobutylene wherein the thermoplastic elastomer comprises a polyolefin, a butyl-based rubber and a lubricant." Accordingly, the Office relies upon the Doi reference. The Office concludes that it would have been obvious to one of ordinary skill in the art to have provided a liner comprising the blend disclosed in Doi in the liner of Koyama in order to provide "improved sealing and peelability."

Applicants submit that one of ordinary skill would not have been led to the liner of Doi for at least the following reasons: First, Doi discloses a metal crown closure and not a plastic closure as recited in Claim 1. The metal-type closure and crown closures disclosed in Doi are different from the plastic-type closures recited in the present claims and present different issues to those of skill in the art. Secondly, the liner in the presently claimed invention is adhered directly to the inner surface of the plastic closure. In contrast, in Doi, an intermediate adhesive layer is provided to the metal crown to which the liner of Doi is adhered. Thus, even if one of ordinary skill had been led to combine the liner of Doi with the closure of Koyama, he still would not have arrived at the claimed invention.

However, more likely, one of ordinary skill would not even have been led to make the proposed combination. Applicants have developed a liner composition with the specified ranges of thermoplastic elastomer, polybutylene and polyisobutylene for a closure possessing excellent liner adhesion (without use of a separate adhesive) and torque removal properties. The ability to attain such properties would not have been obvious from the combination of Koyama with the metal crown, adhesive including closure disclosed in Doi.


In addition to the amendments made above, Applicants have added new Claim 33 which recites a closure having a liner composition that is substantially oil-free.

Finally, with respect to the provisional obviousness-type double patenting rejection, based on co-pending application number 10/400,304, Applicants note that this application has now been abandoned. However, a divisional application based on the abandoned parent, U.S. Serial No. 11/221,693 has been filed. That application includes claims to a closure including a plastic shell and a substantially oxygen impermeant liner adhered to the liner surface of the end panel wherein the liner comprises a blend of one or more butyl rubber compounds, one or more polyolefin compounds and two or more lubricant-type additives.

Included with this response is an Information Disclosure Statement for this patent application. The Information Disclosure Statement includes all of the references cited in the now-issued parent, U.S. Patent 6,677,397.

For the reasons set forth above, Applicants respectfully submit that the pending claims are now in condition for allowance. Reconsideration and allowance of such claims are respectfully requested.

Respectfully submitted,

  
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